

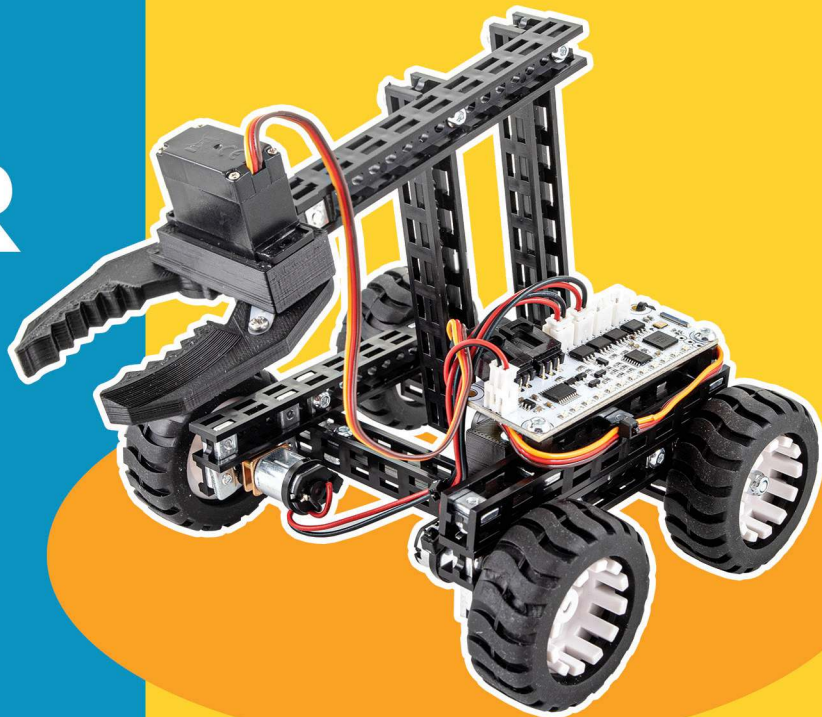


totem

GRIPPER BOT

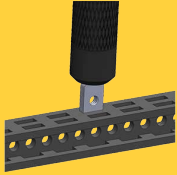
Assembly guide

**MOTOR-WHEEL
PLATFORM
WITH GRIPPER**



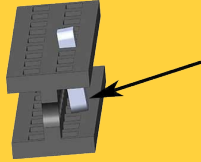
STARTING TIPS

Inserting nuts (1)



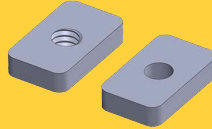
It is a good idea to start every step inserting nuts into beams (if the step requires). Use the back of the screwdriver to push in the nuts.

Inserting nuts (2)



After entering the first slot, nuts tend to tilt. Use your thumb to push it back straight, and then again use the screwdriver to insert the nut all the way in.

Faulty threads



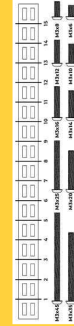
Some of the nuts are missing threads. This is a manufacturing issue and we are working on it. In the mean time, we add few extra nuts. We apologize for the inconvenience.

Tightening standoffs



Push Nylon Standoff with your thumb while tightening it with the wrench.

Ruler

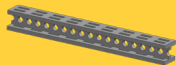


Use Beam/Bolt ruler to determine the length of beams and bolts.

For more tips, please visit the link below:

<https://totemaker.net/blog/totem-mechanics-for-beginners/>

PART LIST



8x Beam 90 mm



4x Bolt M1.6x3



1x Bolt M2.5x12



24x Bolt M3x6



2x Bolt M3x8



2x Bolt M3x10



4x Bolt M3x20



2x Bolt M3x25



1x Bolt M3x45



6x 2-Hole Simple Bracket



4x 2-Hole 90 Bracket



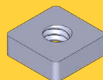
2x L-Twisted Bracket



5x Lock Nut M3



30x Nut M3 6x10



3x Nut M3 5.5x5.5



2x Nylon Standoff M3x8



5x Nylon Spacer 4 mm



4x Nylon Spacer 5 mm



3x Nylon Spacer 8 mm



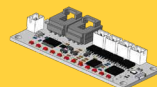
3x Zip Tie



2x D-Shaft Wheel



2x O-Shaft Wheel



1x Mini Control Board



1x Rechargeable Battery



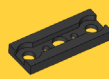
1x Rechargeable Battery Charger



1x Mini Servo Motor



2x N20 Motor



2x N20 Motor Bracket



1x Mini Servo Motor Bracket



1x Micro Gripper



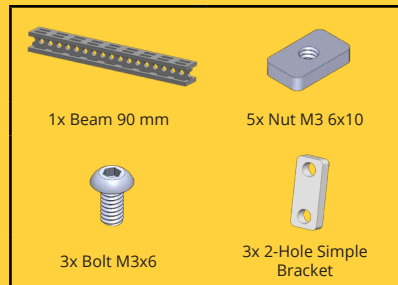
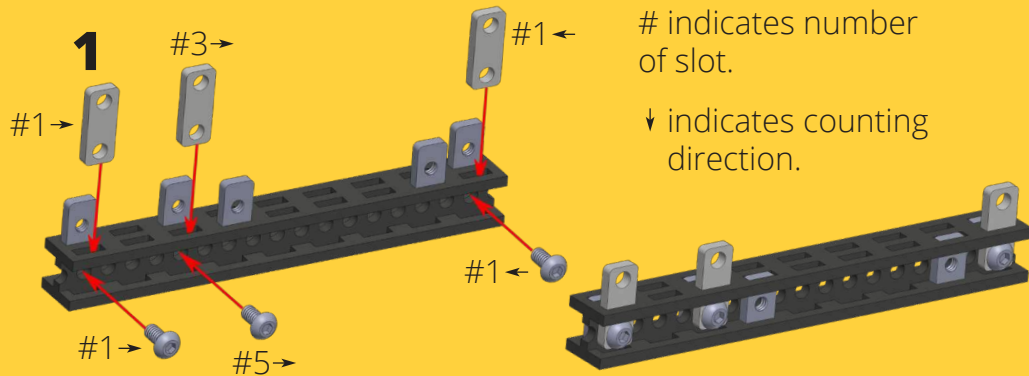
1x Mini Screwdriver



1x Totem Wrench

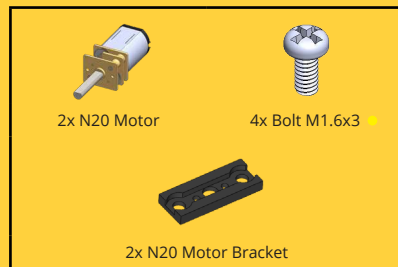
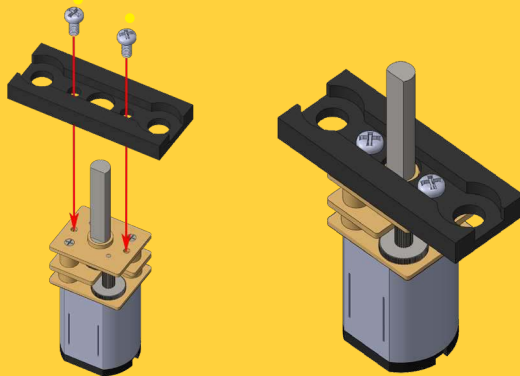


1x Totem Screwdriver



2

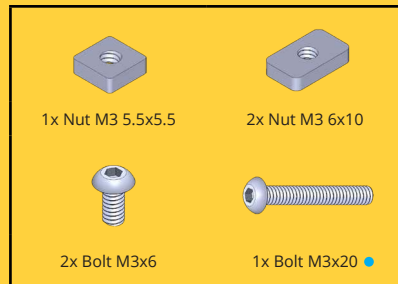
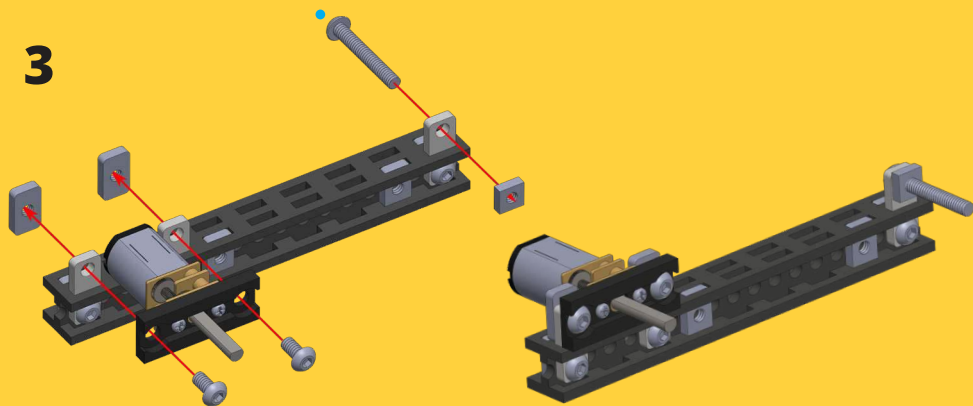
Use Mini Screwdriver for the bolts.



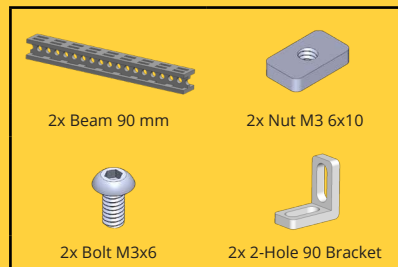
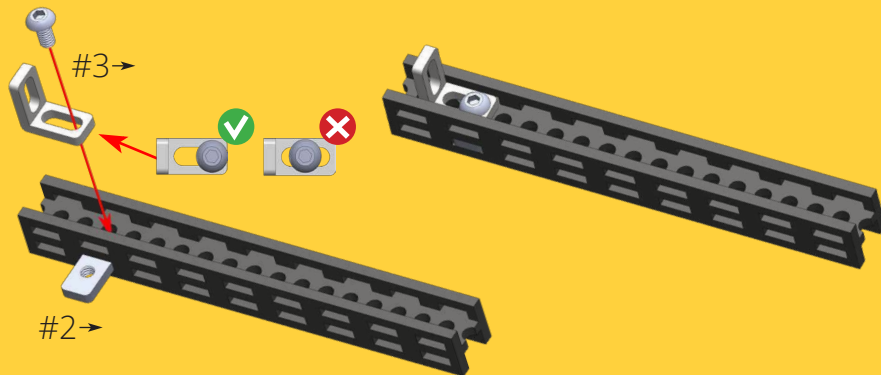
Repeat this step twice.

2x

3



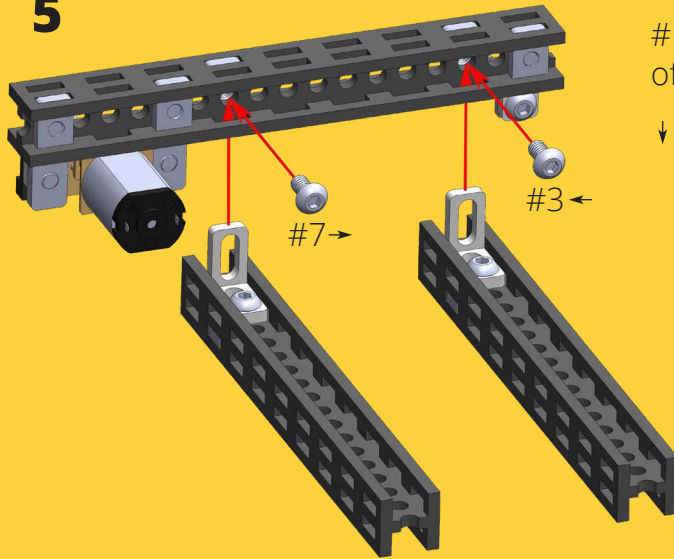
4



Repeat this step twice.

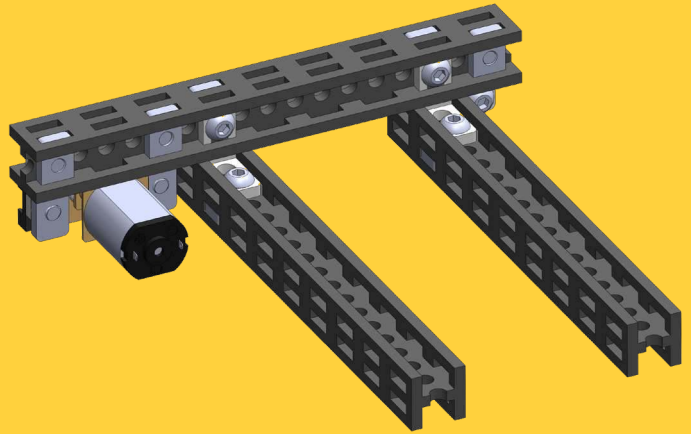
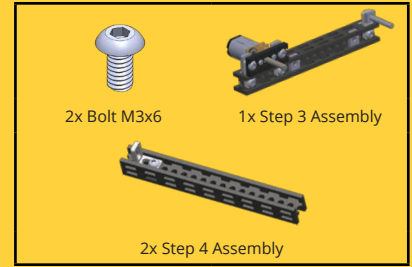
2x

5

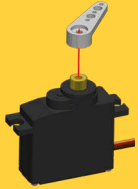


indicates number of slot.

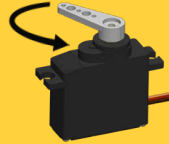
↓ indicates counting direction.



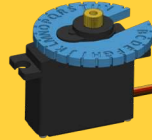
Mini Servo Arm Calibration (for Robotics Kit only)



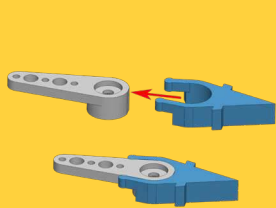
1. Place the servo arm on the motor



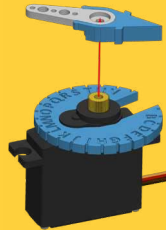
2. Turn the arm all the way counterclockwise until it stops



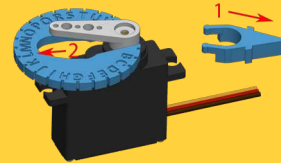
3. Carefully take off the arm and place the index disc on the motor



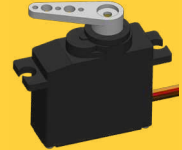
4. Snap the index arrow on the servo arm



5. Place the servo arm so that the index arrow would point to letter B on the index disc. All motors are slightly different so the arrow might be not exactly on point.

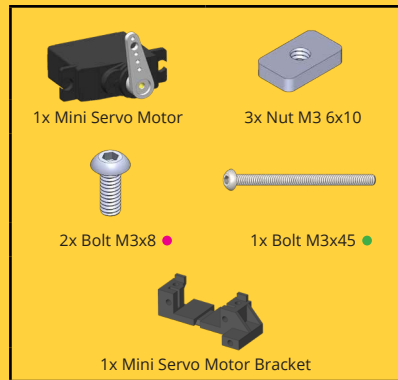
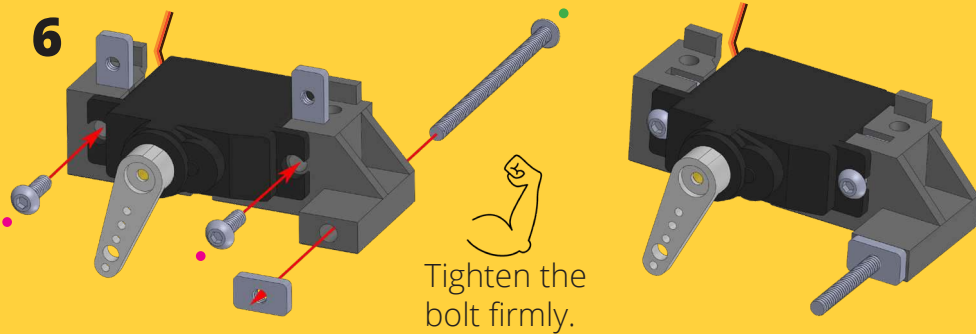


6. Take the index arrow and the index disc away



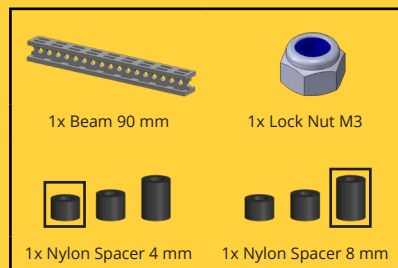
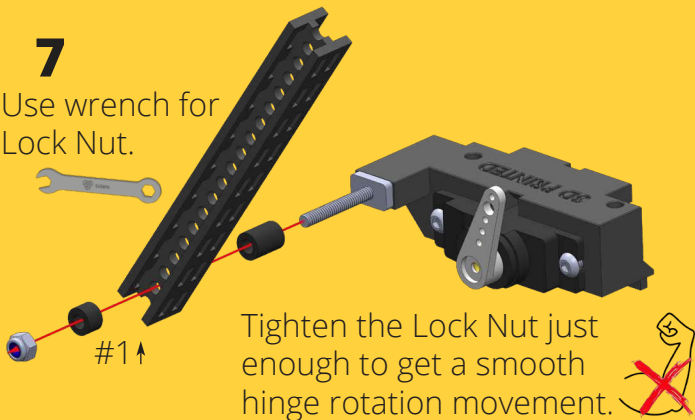
7. The servo arm is calibrated

6

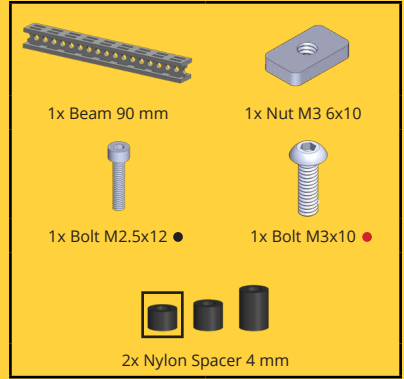
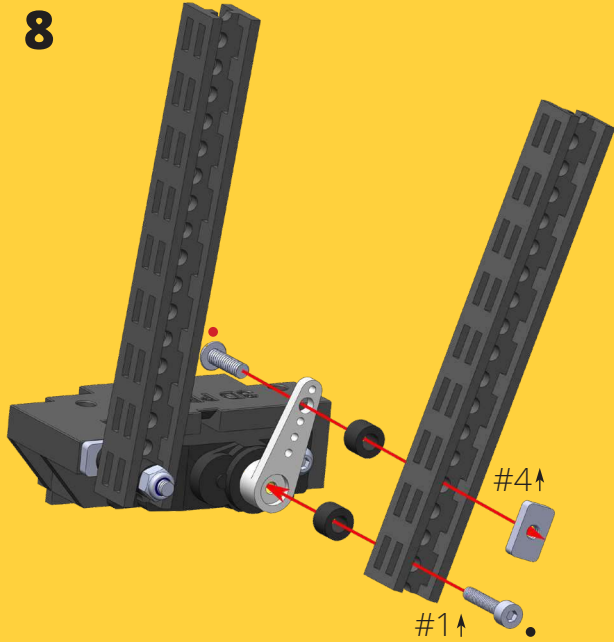


7

Use wrench for Lock Nut.



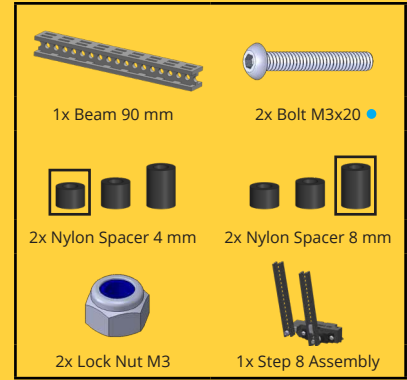
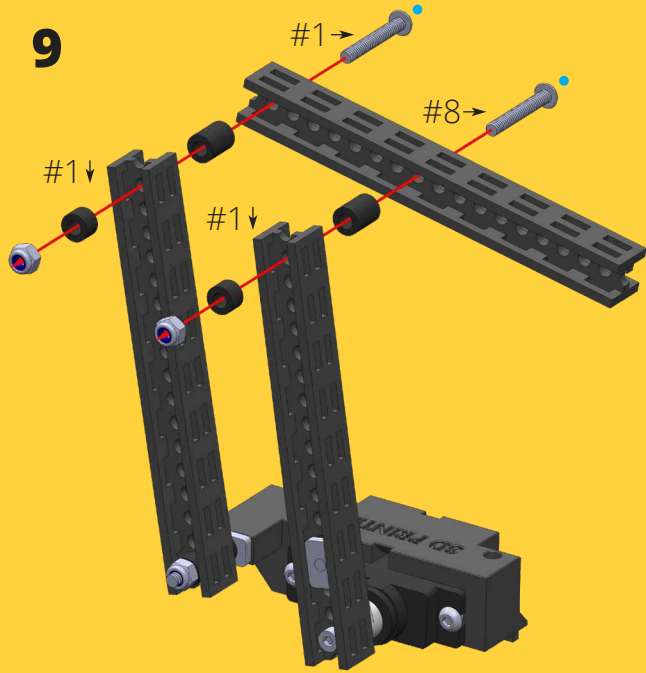
8



indicates number of slot.

↓ indicates counting direction.

9



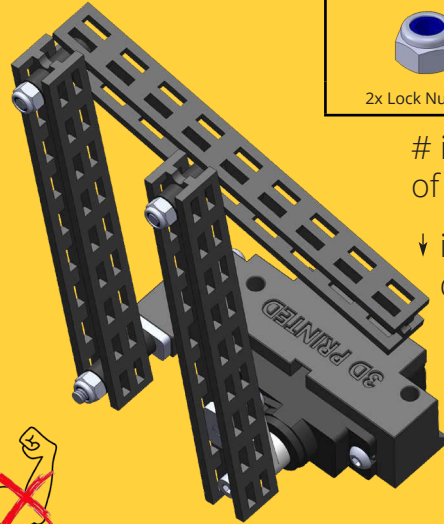
indicates number of circular slot.

↓ indicates counting direction.

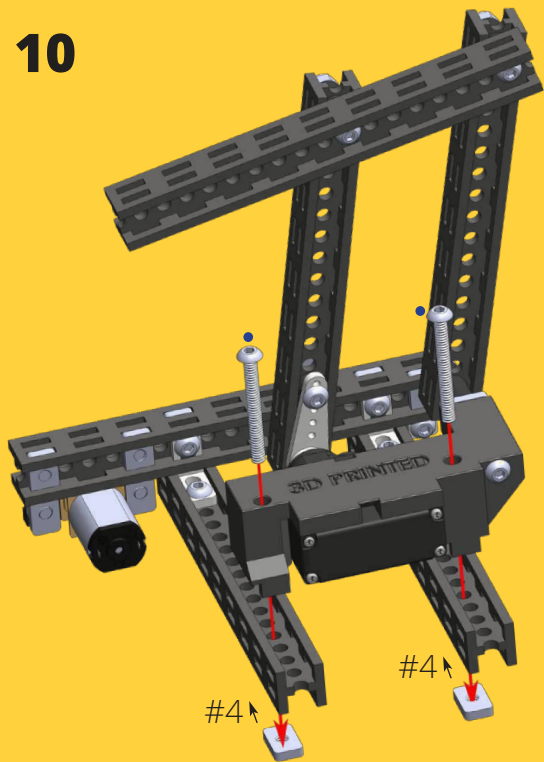
Use wrench for Lock Nuts.



Tighten the Lock Nut just enough to get a smooth hinge rotation movement.

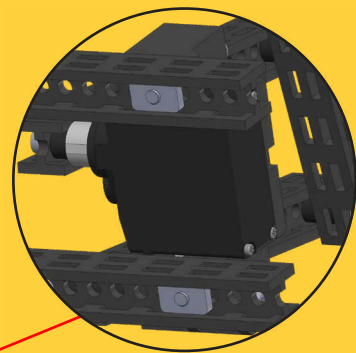
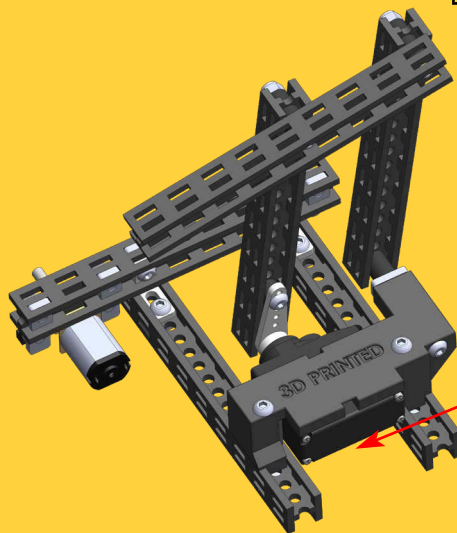


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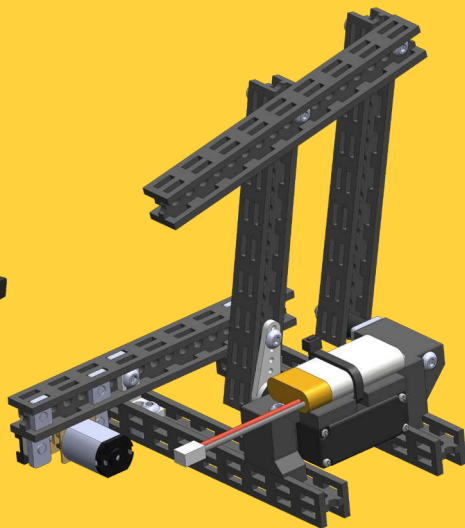
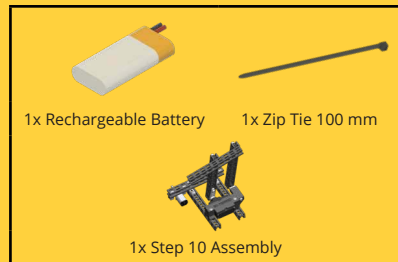
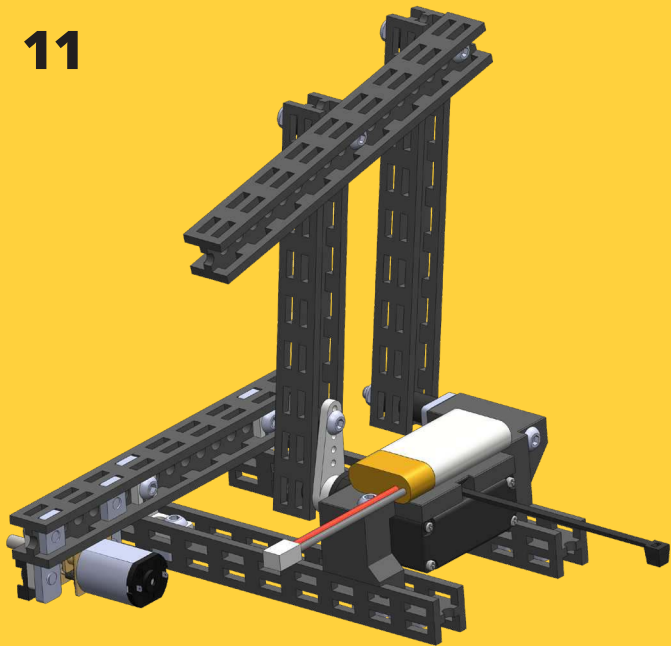
indicates number of slot.

↓ indicates counting direction.

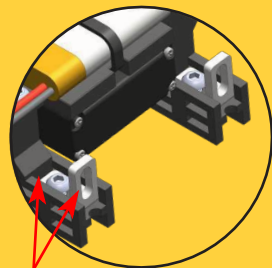
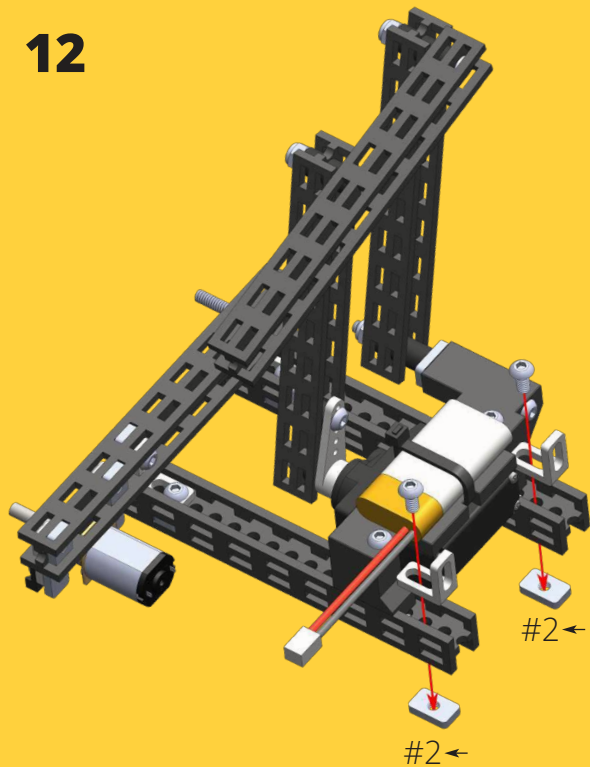


Bottom view.

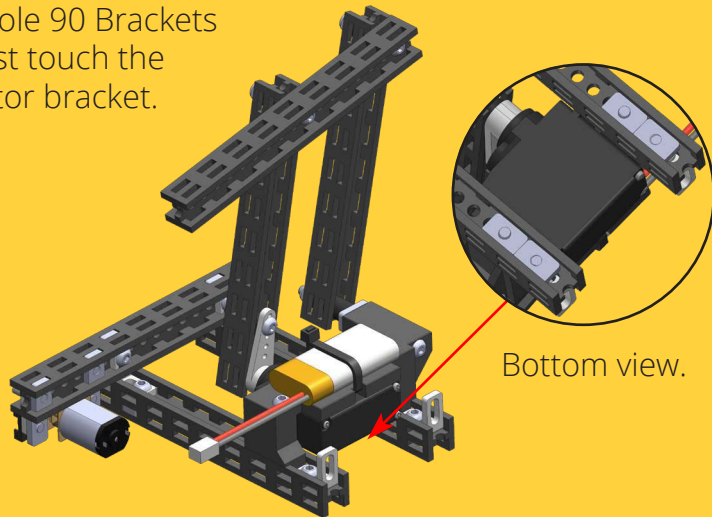
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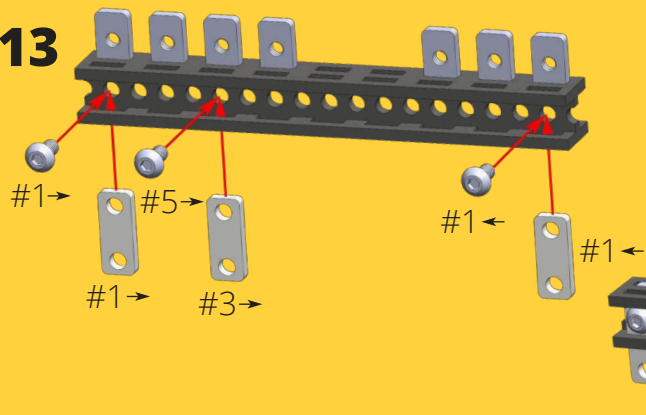
12



2-Hole 90 Brackets must touch the motor bracket.

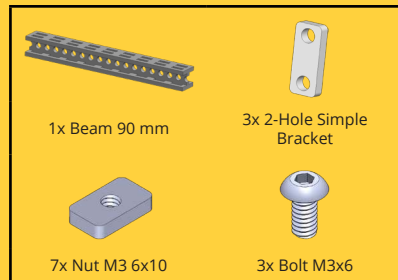


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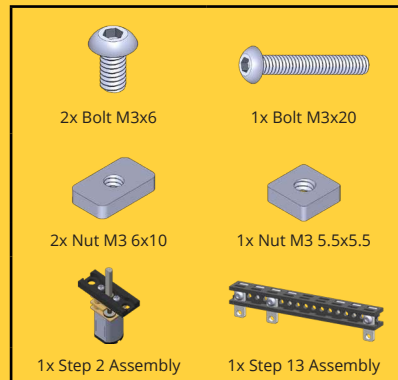
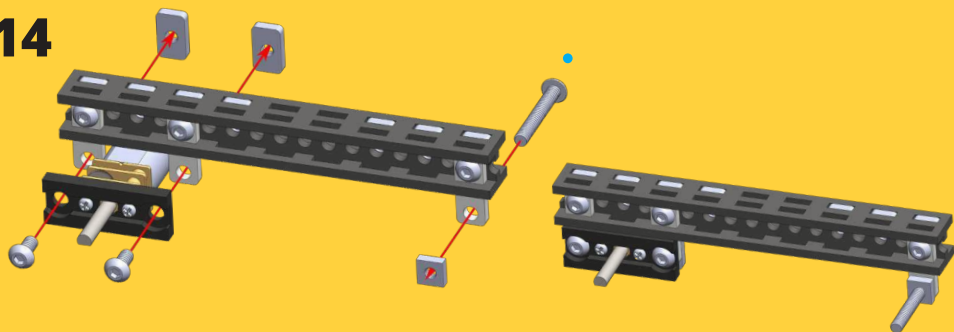


indicates number of slot.

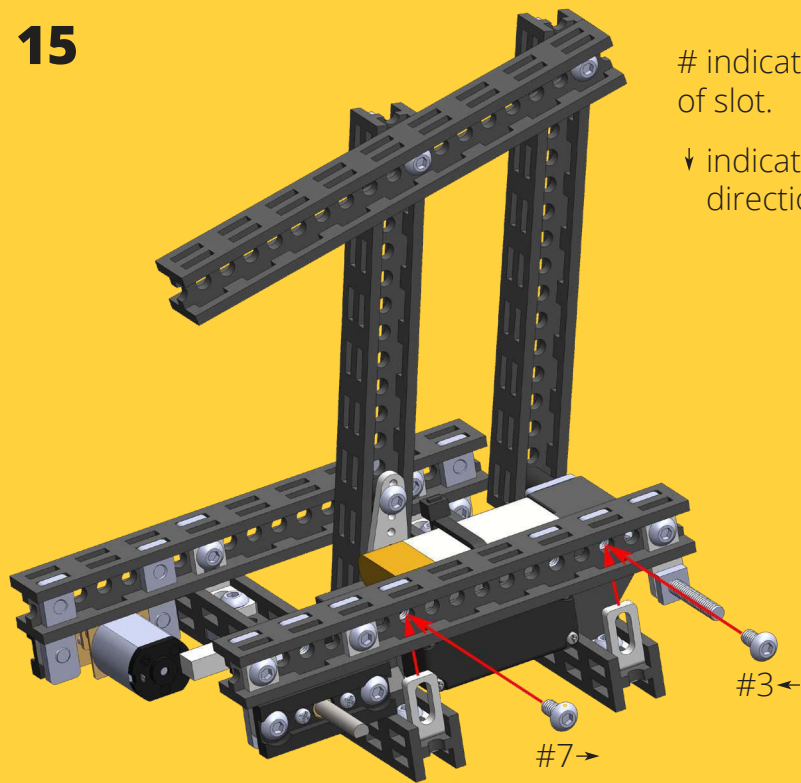
↓ indicates counting direction.



14

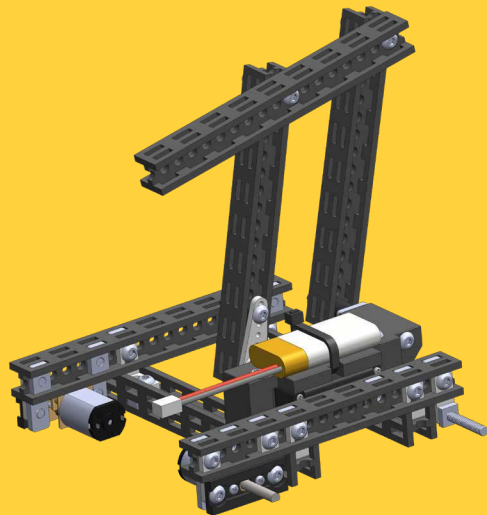
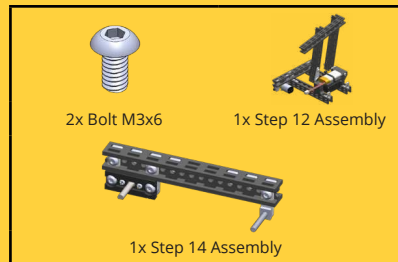


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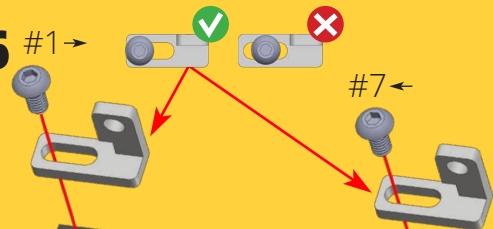
indicates number of slot.

↓ indicates counting direction.



16

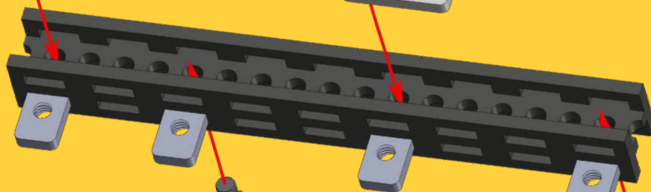
#1 →



Use wrench for Nylon Standoffs.



#7 ←

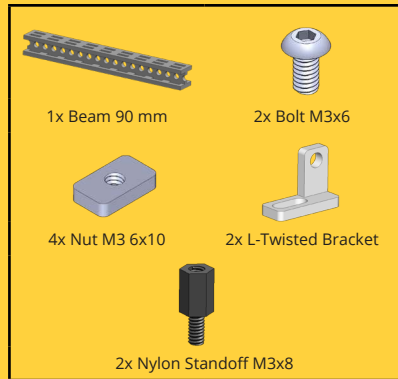
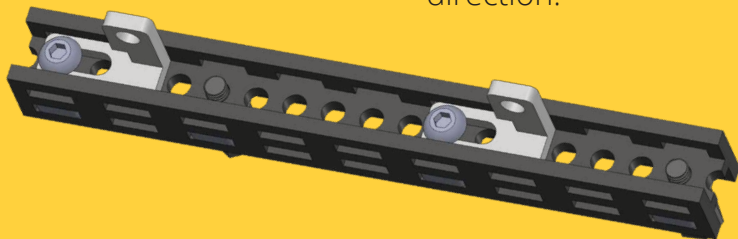


#5 →



Do not use much force when tightening Nylon Standoffs.

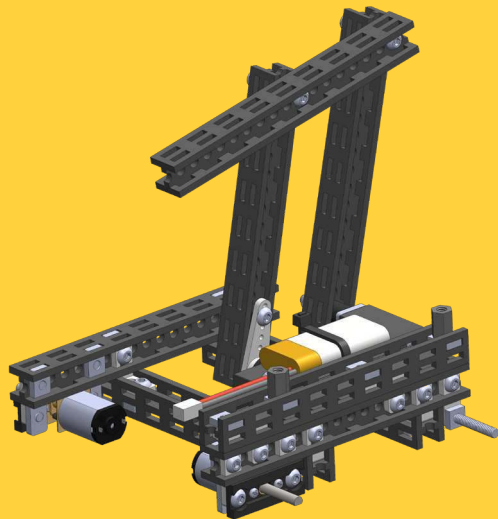
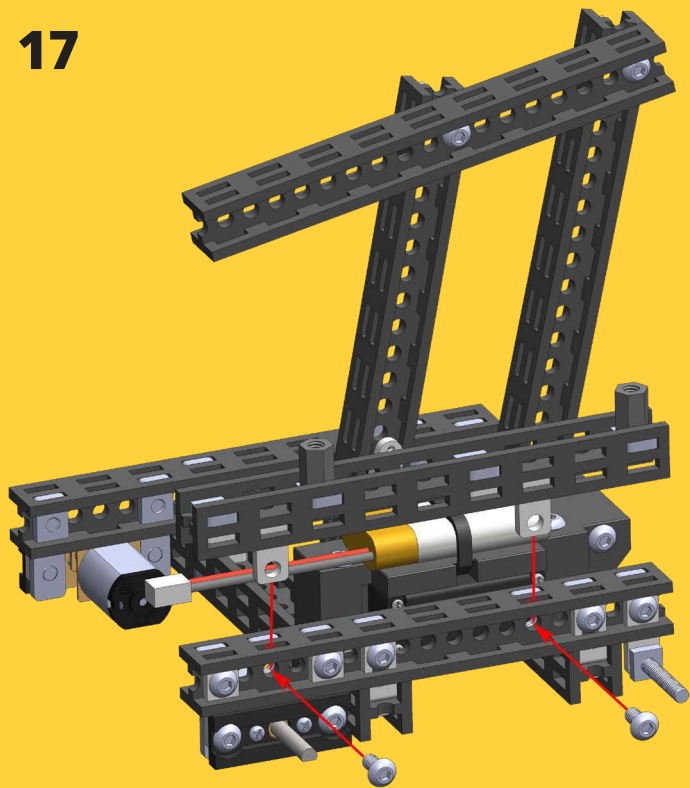
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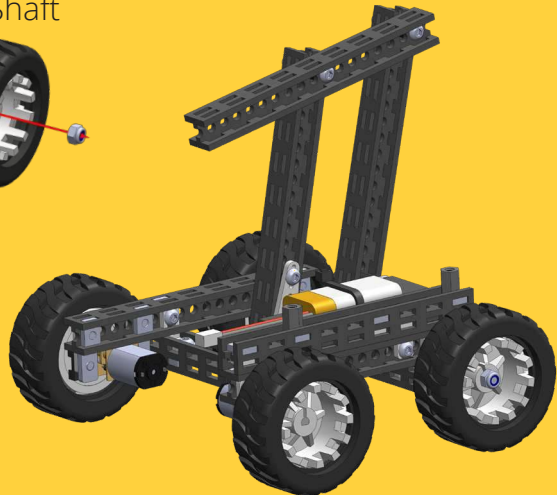
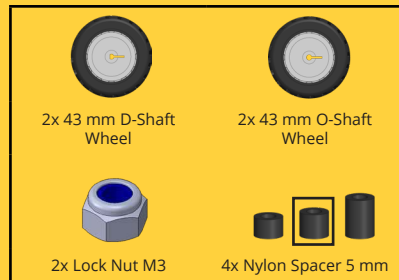
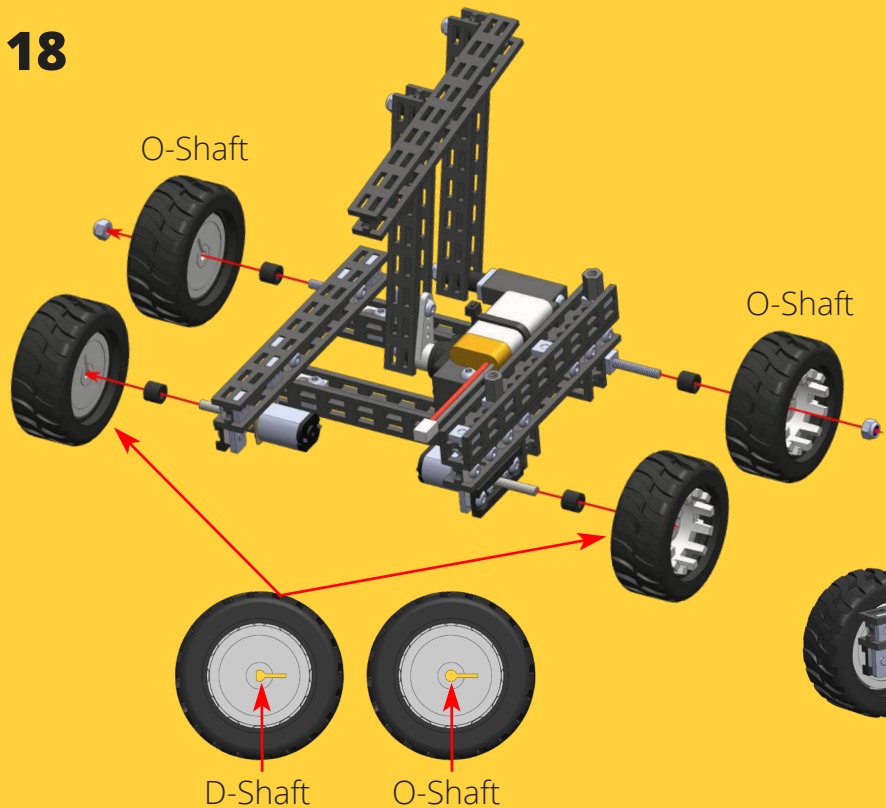
indicates number of circular slot.

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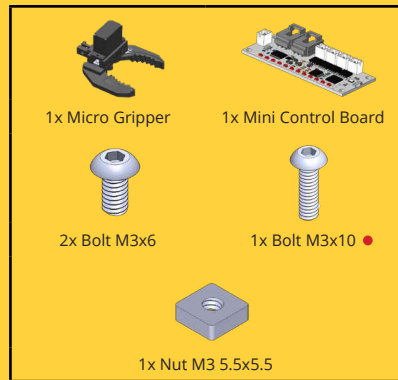
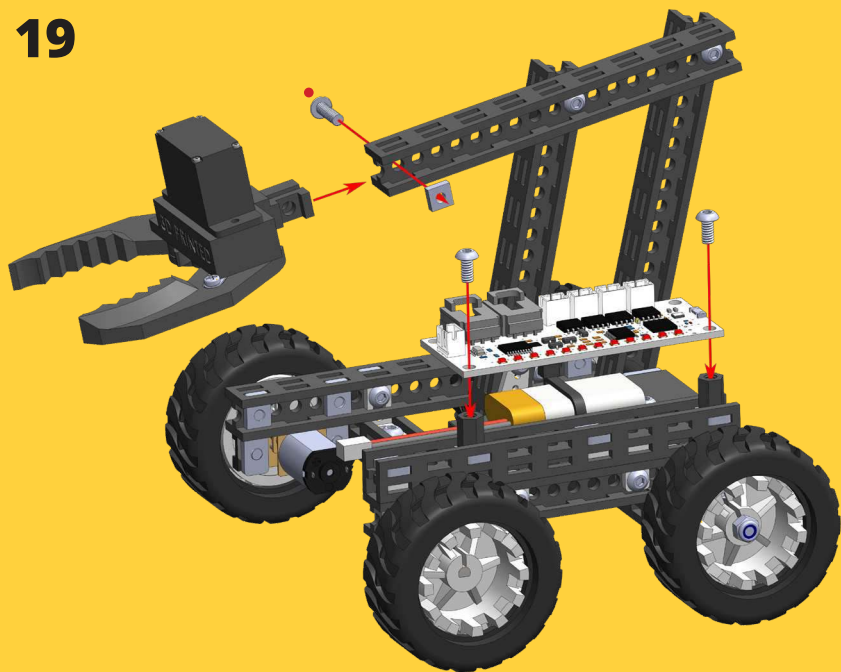
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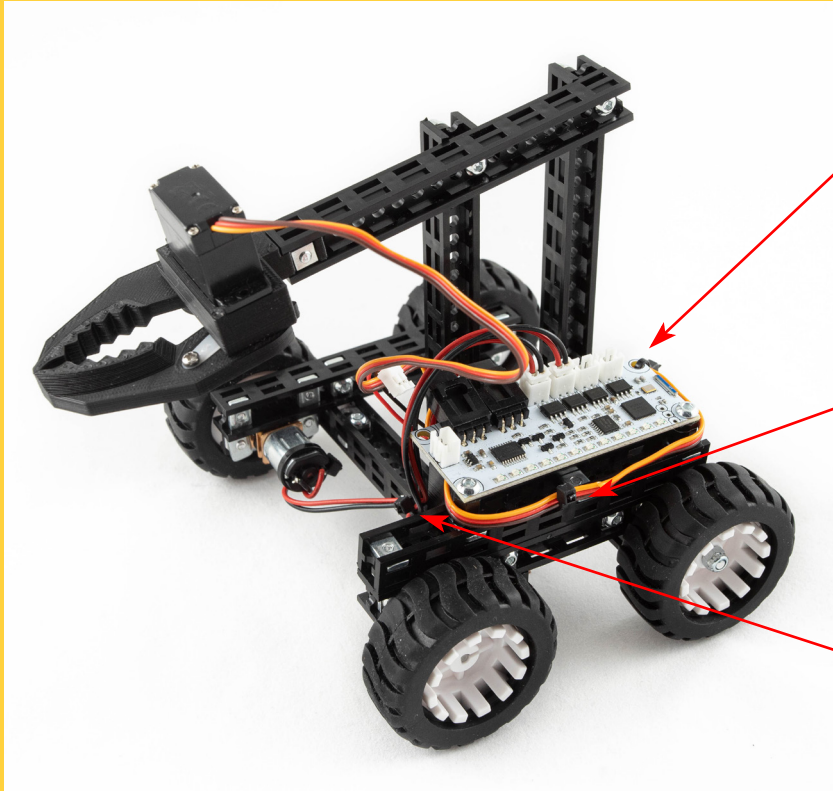


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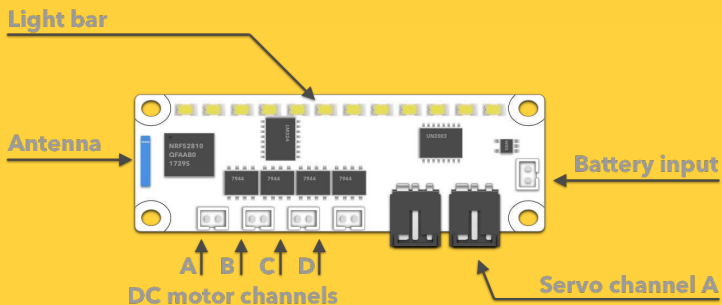
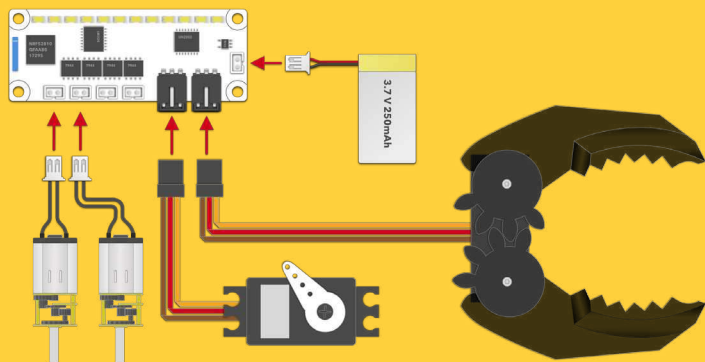
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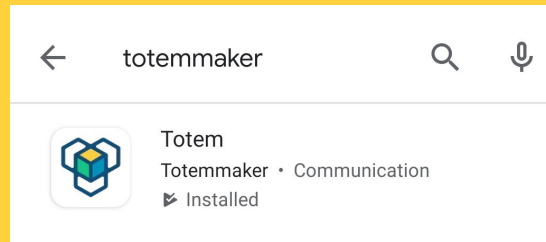
Tie wires with Zip Ties so they do not hang messy and Gripper part can move freely.

CONNECTING ELECTRONICS



HOW TO CONTROL?

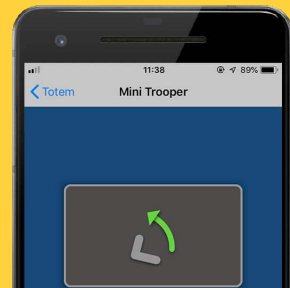
Download Totem app on your smartphone or tablet via App Store or Google Play.



Follow the step by step guide to connect your Gripper Bot to your device.



Search for:
Totemmaker



TROUBLESHOOT

Can't connect to the Mini Control Board with Totem mobile application.

- Check if Mini Control Board is powered on (LEDs should blink).
- Only one device can be connected to the board at a time. Reconnect the battery to reset the board or disconnect with another device.
- Check if your device is running the latest version of Totem mobile application.
- Ensure that your device has Bluetooth functionality and location service (GPS) enabled and Totem mobile application has the location permission.
- Close Totem mobile application and run it again (restart).

Servo motor doesn't spin.

Servo motor connector may be plugged in upside down. Flip it over.

LEDs are flashing when battery is not connected and motors are spined manually.

This is a normal behaviour and doesn't indicate any malfunction.

None of the LEDs are flashing when battery is connected.

Battery voltage is low. Charge the battery.

First LED of light bar is flashing when battery is connected.

Battery voltage is low. Charge the battery.

DC motors are twitching or decelerates while driving.

Battery voltage is low. Charge the battery.

DC motor spin direction is incorrect.

- Check instruction manual if motors are plugged to appropriate DC motor sockets.
- Connect to Gripper Bot using Totem mobile application. Go to "Settings" and switch "DC motor pins" to "Inverted". Write changes by clicking "Save".
- A button configuration may be wrong. Reinstall Totem mobile application in order to reset all the settings.



PRECAUTIONS: ELECTRONICALLY OPERATED PRODUCT

Do not give this product to children aged 8 or below. As with all electronic products, precautions should be observed during handling and use to prevent electric shock.

Adult supervision required.

Note to adults: to ensure that the child's play is both safe and fun, please review all operating instructions and safety rules with your child.

SAFETY WARNINGS:

- Do not pick up vehicle while in motion.
- Keep fingers, hair, and loose clothing away from rotating wheels, to avoid the injury.
- Adult supervision is required when this vehicle is being operated.
- If you stopped operating the vehicle, remember to unplug the battery, to avoid accidental operation.
- If the vehicle is dirty, please clean it with dry and soft cloth. Do not clean electronics.
- Do not expose the vehicle to high temperature, high humidity, or direct sunlight.
- Indoor use only. Do not put this product in water to avoid damaging its electronic components.
- The product is made of complex electronic circuit and electronic components, do not disassemble, or modify the circuit board.

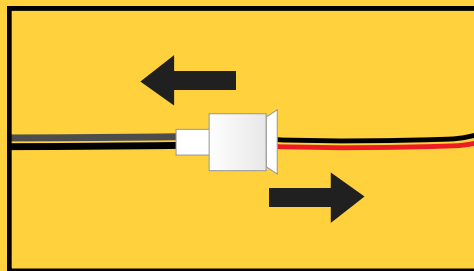
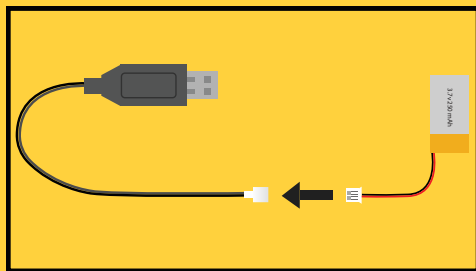
BATTERY SAFETY INFORMATION:

- This vehicle is designed to work with provided 250 mAh 3.7V LiPo battery and charger.
- Rechargeable battery must be charged by adult only.
- Do not leave charging without supervision of adult.
- There is a risk of fire and personal injury if battery is punctured, damaged or misused.
- Do not disassemble or damage the battery pack.
- Use only the supplied 250 mAh 3.7V LiPo battery battery. Using any other battery may damage the model.
- Use only the included USB charging cable to charge the battery.
- Please check on a regular basis the wire, plug, battery, charger, and other electronic parts on the vehicle. If any damage is found, please stop using the product immediately.
- Stop charging if battery becomes hot, smells, smokes or gives off strong odour.
- Never throw batteries into fire to avoid explosion or leakage.
- Check the batteries on regular basis to avoid leakage.
- Recycle or dispose of batteries according to local laws and guidelines.

BATTERY CHARGING:

Rechargeable battery must be charged by adult only.

- The new battery pack needs to be charged before use.
- Connect the USB charging cable to 5V USB power source, such as laptop.
- Connect the battery to the charger (see picture 1). The charger will show a red LED light when charging the battery. When the battery is fully charged, the red LED light turns off.
- To disconnect cables, hold the connectors of both cables and pull apart (see picture 2).
- Do not attempt to overcharge the battery.



KEEP THIS INSTRUCTION MANUAL AND THE PRODUCT BOX AS IT CONTAIN IMPORTANT INFORMATION FOR FUTURE REFERENCE.

Due to the continuous product improvement, the pictures on this manual may differ slightly from the actual product. Please adhere to actual product instead.

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 **WARNING:**

CHOKING HAZARD - Small parts.
Not for children under 3 years.



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Mini Lab



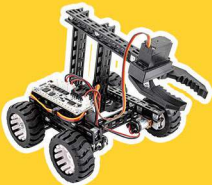
Micro Lab



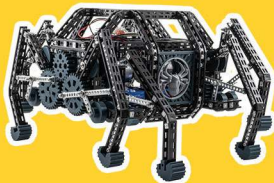
Mini Trooper



Young Engineer Kits



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